CLAIMS

1   1.   A method for updating information on a client using differences between old

2   information residing on the client and new information residing on a server, said method

3   comprising:

4   automatically identifying differences between current information residing on a client

5   and new related information residing on a server;

6   generating a difference file on a server using the identified differences;

7   transmitting the difference file to the client; and

8   updating the current information using the difference file resulting in updated

9   information on the client.

1   2.   A method as recited in claim 1, further comprising:

2   requesting, by a client, information from a network; and

3   retrieving the requested information, by a server connected to the network, and by the

4   client.

1   3.   A method as recited in claim 2, wherein the automatically identifying

2   differences further comprises:

3   comparing current information retrieved in the retrieving step with information

4   residing in storage on the server; and

5   determining automatically, by the server, whether a previous version of the current

6   information resides in storage on the client and server.

1   4. A method as recited in claim 3, further comprising saving information, by the

2 server, the information corresponding to versions of information sent by the server to clients,

3 wherein the version of information is correlated with the client to which it was sent.

1   5. A method as recited in claim 3, wherein the requesting, by a client, of

2 information from a network, is performed by a user employing a patch-enabled Web browser.

1   6. A method as recited in claim 3, wherein the requesting of information by a

2 user is from a public, global network of computers, employing a patch-enabled Web browser.

1   7. A method as recited in claim 3, wherein the requesting of information by a

2 user is from a private or proprietary intranet, employing a patch-enabled Web browser.

1   8. A method as recited in claim 2, wherein the client connects to the network via

2 a wireless communication method.

1   9. A method as recited in claim 8, wherein a user on the client executes an

2 application related to geo-positioning system (GPS) technology and the information

3 requested is map data to be transferred to the user's wireless device.

1   10.   A method as recited in claim 8, wherein a user on the client executes an

2   application related to financial markets and the information requested is financial data to be

3   transferred to the user's wireless device.

1   11.   A method as recited in claim 10, wherein the user requests data related to

2   financial markets at unpredictable intervals and wherein the client receives updated current

3   information using the difference file customized to the precise intervals of the requests.

1   12.   A method as recited in claim 2, wherein the new information resides on a

2   content server, the information is retrieved by a proxy server from the content server via a

3   network, and the comparing current information is performed by the proxy server.

1   13.   A method as recited in claim 12, wherein the client and proxy server resides

2   on the same computer processor.

1   14.   A method as recited in claim 2, wherein the new information resides on a

2   content server, the information is retrieved by a proxy server from the content server, and the

3   comparing current information is performed by the proxy server, the content server and proxy

4   server residing on the same computer processor.

1   15.   A method for effecting secure transmission of data to a client using differences

2   between old information residing on the client and new information residing on a server, said

3   method comprising:

4   requesting, by a client, information from a network, wherein a user on the client

5   desires secure transmission of the information;

6   retrieving the requested information, by a server connected to the network, via a

7   secure connection, the server also connected to the client;

8   saving transactional information, by the server, the transactional information

9   corresponding to versions of information sent by the server to clients, wherein the version of

10   information sent to the clients is correlated with the client to which it was sent;

11   comparing current information, retrieved when retrieving requested information, with

12   information residing in storage in the server;

13   determining automatically, by the server, whether a previous version of the current

14   information resides in storage on the client and server, and if not, then sending the requested

15   information to the client via a secure means; and otherwise

16   generating a difference file on the server using the identified differences;

17   transmitting the difference file to the client; and

18   updating the current information using the difference file resulting in updated

19   information on the client.

1   16.   A method as recited in claim 15, wherein the requested information is sent by

2   the server to the client in encrypted form and the difference file generated is transmitted in

3   unencrypted form.

1   17.   A method of efficient transmission to and from a submersible vehicle, using

2   differences between old information residing on a recipient and new information residing on

3   a sender, said method comprising:

4   requesting, by a recipient, information from the sender, wherein one of the recipient

5   and sender resides on a submersible vehicle with limited bandwidth or limited accessibility to

6   transmission;

7   retrieving the requested information, by a server connected to the sender, the server

8   also connected to the recipient via a wireless transmission means;

9   saving transactional information, by the server, the transactional information

10   corresponding to versions of information sent by the sender to the recipients, wherein the

11   version of information sent to the recipients is correlated with the recipient to which it was

12   sent;

13   comparing current information, retrieved when retrieving the requested information,

14   with information residing in storage in the server;

15   determining automatically, by the server, whether a previous version of the current

16   information resides in storage on the recipient and server, and if not, then sending the

17   requested information to the recipient as a whole, and otherwise

18   generating a difference file on the server using the identified differences;

19   transmitting the difference file to the recipient; and

20   updating the current information using the difference file resulting in updated

21   information on the recipient.

1   18.   A method as recited in claim 17, wherein the recipient is a client residing on

2   the submersible vehicle and the server does not reside on the submersible vehicle and is

3   directly connected to the sender.

1   19.   A method as recited in claim 15, wherein the sender resides on the

2   submersible vehicle and is connected to the server and the client does not reside on the

3   submersible vehicle.

1   20.   A method as recited in claim 17, wherein the sender and recipient are

2   interchangeable depending on the direction of the data flow to/from the submersible vehicle

3   and for a specific transmission, thereby effecting bi-directional patching of data.

1   21.   A system for updating information on a client using patches or differences

2   between old information residing on the client and new information residing on the server,

3   comprising:

4   at least one patch enabled server connectable to a network;

5   at least one client connectable to a network through the patch enabled server, the

6   patch enabled server connected to the client and enabled to send requests to the network,

7   when connected thereto, for information based on requests for information received by the

8   server from a patch enabled browser on the client,

9   the patch enabled server comprising:

10   a data store and enabling routine for storing information, the information

11 correlating requested information retrieved from the network with at least one client recipient

12 of the requested information retrieved from the network; and

13   a patch generator for automatically identifying differences in versions of

14 requested information and generating difference files if it is determined by analyzing the

15 information that a previous version of the client requested information resides in storage on

16 the server and the client, and transmitting the difference file to the client.

1   22.   A system as recited in claim 21, wherein the patch enabled browser on the

2   client further comprises:

3   a patch identifier for identifying whether received information is a binary

4   difference file (patch); and

5   a patch executer which executes the binary patch received from the server and

6   updates the current information on the client using the binary difference file resulting in

7   updated information on the client.

1   23.   A system as recited in claim 22, wherein the client is connected to the server

2   via a wireless transmission path.

1   24.   A system as recited in claim 23, wherein the client is on a submersible vehicle.

1   25.   A system as recited in claim 22, wherein the patch executer is a plug-in

2   module of a patch enabled Web browser.

1   26.   A system as recited in claim 21, wherein the requested information is related

2   to financial markets.

1   27.   A system as recited in claim 21, wherein the information stored in the data

2   store is transactional information to correlate requested information sent by the patch enabled

3   server and received by a client with temporal and recipient identification information.

1   28.   A system as recited in claim 21, wherein the patch enabled server

2   distinguishes temporal and recipient identifying information associated with requested

3   information sent by the patch enabled server and received by at least one of a plurality of

4   client recipients.

1   29.   A system for effecting secure transmissions of data to a client using

2   differences between old information residing on the client and new information residing on

3   the server, comprising:

4   at least one patch enabled server connectable to a network;

5   at least one client connectable to a network through the patch enabled server, the

6   patch enabled server connected to the client and enabled to send requests to the network for

7   information based on requests for information received by the server from a patch enabled

8   browser on the client,

9   wherein a patch enabled server comprises:

10   a data store and enabling routine for storing transactional information, the

11   transactional information correlating requested information retrieved from the network with

12   one or more client recipients of the requested information retrieved from the network; and

13   a patch generator for automatically identifying differences in versions of

14   requested information and generating difference files if it is determined by analyzing the

15   transactional information that a previous version of the client requested information resides in

16   storage on the server and the client, and transmitting the difference file to the client, but if a

17   previous version of the client requested information does not reside on both the server and

18   client, then securing the non-patch information to be sent to the client.

1   30.   A system as recited in claim 29, wherein the non-patch information is secured

2   by using encryption.

1   31.   A system for updating information on a client using differences between old

2   information residing on the client and new information residing on the server, comprising:

3   a network of computers supporting client/server technology;

4   a content source connected to the network, the content source having a unique

5   identifier allowing content to be accessed across the network;

6   a server connected to the network providing a conduit for users, the server processing

7   requests by users for retrieving data from a content source;

8   a client connected to the network through the server for providing requested content

9   to a user,

10   wherein the server sends requests to the network for information based on requests for

11   information received by the server from the client, and

12   wherein the server comprises:

13   a data store and enabling routine for storing transactional information, the

14   transactional information correlating requested content retrieved from the network with at

15   least one client recipients of the requested content retrieved from the network; and

16   a patch generator for automatically identifying differences in versions of

17   requested content and generating difference files if it is determined by analyzing the

18   transactional information that a previous version of the client requested content resides in

19   storage on the server and the client, and transmitting the difference file to the client.

1   32.   A system as recited in claim 31, wherein the client further comprises:

2   a patch identifier for identifying whether received information is a binary

3   difference file (patch); and

4   a patch executer for executing the binary patch received from the server and

5   for updating the current content on the client using the binary difference file resulting in

6   updated content on the client.

1   33.   A system as recited in claim 32, wherein the client is connected to the network

2   via a wireless transmission path.